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NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS 3	AUG 06	FSTA enhanced with new thesaurus edition
NEWS 4	AUG 13	CA/CAplus enhanced with additional kind codes for granted patents
NEWS 5	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
NEWS 6	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS 7	AUG 27	USPATOLD now available on STN
NEWS 8	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS 9	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS 10	SEP 13	FORIS renamed to SOFIS
NEWS 11	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS 12	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS 13	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS 14	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 15	OCT 02	CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS 16	OCT 19	BEILSTEIN updated with new compounds
NEWS 17	NOV 15	Derwent Indian patent publication number format enhanced
NEWS 18	NOV 19	WPIX enhanced with XML display format
NEWS 19	NOV 30	ICSD reloaded with enhancements
NEWS 20	DEC 04	LINPADOCDB now available on STN
NEWS 21	DEC 14	BEILSTEIN pricing structure to change
NEWS 22	DEC 17	USPATOLD added to additional database clusters
NEWS 23	DEC 17	IMSDRUGCONF removed from database clusters and STN
NEWS 24	DEC 17	DGENE now includes more than 10 million sequences
NEWS 25	DEC 17	TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment
NEWS 26	DEC 17	MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS 27	DEC 17	CA/CAplus enhanced with new custom IPC display formats
NEWS 28	DEC 17	STN Viewer enhanced with full-text patent content from USPATOLD
NEWS 29	JAN 02	STN pricing information for 2008 now available

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

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=> s emboliz? and (polyethylene glycol or "poly(ethylene glycol)" or peg or
polyethylene oxide or "poly(ethylene oxide)" or peo)
         2081 EMBOLIZ?
       376038 POLYETHYLENE
        14210 POLYETHYLENES
       380403 POLYETHYLENE
                (POLYETHYLENE OR POLYETHYLENES)
       384278 GLYCOL
        47440 GLYCOLS
       400537 GLYCOL
                (GLYCOL OR GLYCOLS)
       112735 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
       723170 "POLY"
            2 "POLIES"
       723171 "POLY"
                ("POLY" OR "POLIES")
       562052 "ETHYLENE"
         3435 "ETHYLENES"
```

```
        563563 "ETHYLENE"
                 ("ETHYLENE" OR "ETHYLENES")
        384278 "GLYCOL"
         47440 "GLYCOLS"
        400537 "GLYCOL"
                 ("GLYCOL" OR "GLYCOLS")
         17109 "POLY(ETHYLENE GLYCOL)"
                 ("POLY"(W)"ETHYLENE"(W)"GLYCOL")
         43544 PEG
          1399 PEGS
         44121 PEG
                 (PEG OR PEGS)
        376038 POLYETHYLENE
         14210 POLYETHYLENES
        380403 POLYETHYLENE
                 (POLYETHYLENE OR POLYETHYLENES)
       1827174 OXIDE
        354299 OXIDES
       1927245 OXIDE
                 (OXIDE OR OXIDES)
         13629 POLYETHYLENE OXIDE
                 (POLYETHYLENE(W)OXIDE)
        723170 "POLY"
             2 "POLIES"
        723171 "POLY"
                 ("POLY" OR "POLIES")
        562052 "ETHYLENE"
          3435 "ETHYLENES"
        563563 "ETHYLENE"
                 ("ETHYLENE" OR "ETHYLENES")
       1827174 "OXIDE"
        354299 "OXIDES"
       1927245 "OXIDE"
                 ("OXIDE" OR "OXIDES")
         15840 "POLY(ETHYLENE OXIDE)"
                 ("POLY"(W)"ETHYLENE"(W)"OXIDE")
         10501 PEO
           151 PEOS
         10532 PEO
                 (PEO OR PEOS)
L1          58 EMBOLIZ? AND (POLYETHYLENE GLYCOL OR "POLY(ETHYLENE GLYCOL)" OR
               PEG OR POLYETHYLENE OXIDE OR "POLY(ETHYLENE OXIDE)" OR PEO)

=> s l1 and swelling ratio?
         97426 SWELLING
          1085 SWELLINGS
         98244 SWELLING
                 (SWELLING OR SWELLINGS)
       1556964 RATIO?
          2752 SWELLING RATIO?
                 (SWELLING(W)RATIO?)
L2           1 L1 AND SWELLING RATIO?

=> d 1 ibib abs

L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2004:387296  CAPLUS
DOCUMENT NUMBER:          140:395572
TITLE:                    Vascular embolization material containing
                          water-swelling polyethylene glycol
                          copolymers
INVENTOR(S):              Tabata, Norikazu; Tanahashi, Kazuhiro; Nakanishi,
```

Megumi
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004039425	A1	20040513	WO 2003-JP13773	20031028
W: CA, IN, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
CA 2503949	A1	20040513	CA 2003-2503949	20031028
JP 2004167229	A	20040617	JP 2003-367173	20031028
EP 1559440	A1	20050803	EP 2003-758990	20031028
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
IN 2005CN00740	A	20070824	IN 2005-CN740	20050426
US 2006069168	A1	20060330	US 2005-533090	20050429
IN 2007CN00319	A	20070824	IN 2007-CN319	20070124

PRIORITY APPLN. INFO.:	JP 2002-313927	A	20021029
	WO 2003-JP13773	W	20031028
	IN 2005-CN740	A3	20050426

AB Disclosed is a vascular embolization material to be used for embolizing a blood vessel to thereby block the blood stream. In the most desirable case, the vascular embolization material is made of a polyethylene glycol copolymer having a water-swelling ratio of 30% or more, being degradable in a phosphate-buffered physiol. saline, consisting of almost spherical grains and preferably being insol. in water and a film made of the above polymer has a tensile modulus of elasticity of 1500 MPa or less in the state of being saturated with water. This material makes it possible to surely block a target site without causing coagulation/clogging in a catheter or a blood vessel other than the desired one. Subsequently, it is degraded, thereby relieving the blocking of blood stream and the degradation components can be metabolized or discharged from the body. A poly(L-lactide)-polyethylene glycol-poly(L-lactide) block copolymer was prepared

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FILE 'CAPLUS' ENTERED AT 13:19:46 ON 10 JAN 2008
L1 58 S EMBOLIZ? AND (POLYETHYLENE GLYCOL OR "POLY(ETHYLENE GLYCOL)"
L2 1 S L1 AND SWELLING RATIO?

=> s l1 and ?particl?
1398138 ?PARTICL?
L3 20 L1 AND ?PARTICL?

=> s l3 and (phosphate or pbs)
586556 PHOSPHATE
130539 PHOSPHATES
636996 PHOSPHATE
(PHOSPHATE OR PHOSPHATES)
18167 PBS
6 PBSES

```
        18172 PBS
                (PBS OR PBSES)
L4          2 L3 AND (PHOSPHATE OR PBS)

=> d l-2 ibib abs

L4   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2006:301697  CAPLUS
DOCUMENT NUMBER:          144:338172
TITLE:                    Microspheres capable of binding radioisotopes,
                          optionally comprising metallic microparticles
                          , and methods of use thereof
INVENTOR(S):              Krom, James A.; Schwarz, Alexander
PATENT ASSIGNEE(S):       Biosphere Medical, Inc., USA
SOURCE:                   U.S. Pat. Appl. Publ., 33 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ----------          ----   --------    -------------------    --------
     US 2006067883        A1    20060330    US 2005-185449         20050719
     AU 2005290229        A1    20060406    AU 2005-290229         20050719
     CA 2579612           A1    20060406    CA 2005-2579612        20050719
     WO 2006036269        A2    20060406    WO 2005-US25645        20050719
     WO 2006036269        A3    20070823
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
              LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
              NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
              SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
              ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
              CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
     EP 1796737           A2    20070620    EP 2005-773819         20050719
          R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL,
              BA, HR, MK, YU
PRIORITY APPLN. INFO.:                        US 2004-613098P     P  20040924
                                              WO 2005-US25645     W  20050719
AB   One aspect of the present invention relates to a microsphere, comprising a
     hydrophilic polymer comprising a plurality of pendant anionic groups; a
     transition metal, lanthanide or group 13-14 metal oxide, polyoxometalate
     or metal hydroxide or combination thereof; and a first radioisotope that
     emits a therapeutic β- particle.  In certain embodiments,
     the microsphere further comprises a second radioisotope that emits a
     diagnostic γ-ray; wherein the atomic number of the first radioisotope is
     not the same as the atomic number of the second radioisotope.  In certain
     embodiments, the microsphere is composed of polymer impregnated with
     zirconia bound to 32P as the source of the therapeutic β-emissions
     and 67Ga as the source of the diagnostic γ-emissions.  Another
     aspect of the present invention relates to the preparation of a microsphere
     impregnated with a radioisotope that emits therapeutic β-
     particles and a radioisotope that emits diagnostic β-emitting
     radioisotope and a γ-emitting radioisotope; wherein the atomic number of
     the first radioisotope is not the same as the atomic number of the second
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radioisotope. In certain embodiments, said microspheres are administered to the patient through a catheter. In another embodiment, the microsphere is combined with the radioisotopes at the site of treatment. The microspheres are used for embolization or for treatment of cancer.

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1999:404862 CAPLUS
DOCUMENT NUMBER: 131:39728
TITLE: Agent for gene therapy of tumors and neurodegenerative, cardiovascular, and autoimmune diseases
INVENTOR(S): Reszka, Regina; Berndt, Antje
PATENT ASSIGNEE(S): Max-Delbrueck-Centrum fuer Molekulare Medizin, Germany
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9930741	A2	19990624	WO 1998-DE3763	19981214
WO 9930741	A3	19990819		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19859526	A1	19990819	DE 1998-19859526	19981214
EP 1037670	A2	20000927	EP 1998-966568	19981214
EP 1037670	B1	20031105		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, NL, SE, FI				
JP 2002508337	T	20020319	JP 2000-538719	19981214
AT 253379	T	20031115	AT 1998-966568	19981214
PRIORITY APPLN. INFO.:			DE 1997-19756309 A	19971212
			WO 1998-DE3763 W	19981214

AB A method for local/regional gene therapy of tumors (especially liver metastases) and of neurodegenerative, cardiovascular, and autoimmune diseases comprises combined application of liposomes/plasmid DNA complexes having different compns., quantities, and concns. The pharmaceutical agent employed comprises ≥1 genetic material which are nonencapsulated or encapsulated in PEG, immuno-, immuno/PEG, or cationic, optionally polymer-modified liposomes; lyophilized or degradable starch particles and/or gelatin and/or polymer nanoparticles; and a contrast agent containing I, Gd, magnetite, or F. The genetic material preferably constitutes a suicide gene such as herpes simplex virus thymidine kinase (HSV-tk) gene, deaminase gene, or a cytokine gene coding for IL-2, IL-4, IL-6, IL-10, IL-12, or IL-15, and is enclosed in multilamellar liposomes comprising an amphiphile, a steroid, and an anionic lipid. Thus, phosphatidylcholine-cholesterol-PEG liposomes containing suicide gene pUT 649, which encodes HSV-tk, were injected together with a drug carrier embolization system into the common hepatic artery of rats which had been inoculated with CC531 carcinoma cells 10 days previously. Beginning 5 days later, the rats were treated with ganciclovir (100 mg/kg/day i.p.) for 14 days. The rats showed a decrease in liver metastases after 30 days owing to conversion of ganciclovir by HSV-tk to a nucleotide-like compound which was incorporated into the DNA of dividing liver cells, causing cessation of DNA synthesis.

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     (FILE 'HOME' ENTERED AT 13:19:33 ON 10 JAN 2008)

     FILE 'CAPLUS' ENTERED AT 13:19:46 ON 10 JAN 2008
L1           58 S EMBOLIZ? AND (POLYETHYLENE GLYCOL OR "POLY(ETHYLENE GLYCOL)"
L2            1 S L1 AND SWELLING RATIO?
L3           20 S L1 AND ?PARTICL?
L4            2 S L3 AND (PHOSPHATE OR PBS)

=> s (polyethylene glycol or "poly(ethylene glycol)" or peg or polyethylene oxide
or "poly(ethylene oxide)" or peo) (s) (pbs or phosphate buffered saline)
        376038 POLYETHYLENE
         14210 POLYETHYLENES
        380403 POLYETHYLENE
                 (POLYETHYLENE OR POLYETHYLENES)
        384278 GLYCOL
         47440 GLYCOLS
        400537 GLYCOL
                 (GLYCOL OR GLYCOLS)
        112735 POLYETHYLENE GLYCOL
                 (POLYETHYLENE(W)GLYCOL)
        723170 "POLY"
             2 "POLIES"
        723171 "POLY"
                 ("POLY" OR "POLIES")
        562052 "ETHYLENE"
          3435 "ETHYLENES"
        563563 "ETHYLENE"
                 ("ETHYLENE" OR "ETHYLENES")
        384278 "GLYCOL"
         47440 "GLYCOLS"
        400537 "GLYCOL"
                 ("GLYCOL" OR "GLYCOLS")
         17109 "POLY(ETHYLENE GLYCOL)"
                 ("POLY"(W)"ETHYLENE"(W)"GLYCOL")
         43544 PEG
          1399 PEGS
         44121 PEG
                 (PEG OR PEGS)
        376038 POLYETHYLENE
         14210 POLYETHYLENES
        380403 POLYETHYLENE
                 (POLYETHYLENE OR POLYETHYLENES)
       1827174 OXIDE
        354299 OXIDES
       1927245 OXIDE
                 (OXIDE OR OXIDES)
         13629 POLYETHYLENE OXIDE
                 (POLYETHYLENE(W)OXIDE)
        723170 "POLY"
             2 "POLIES"
        723171 "POLY"
                 ("POLY" OR "POLIES")
        562052 "ETHYLENE"
          3435 "ETHYLENES"
        563563 "ETHYLENE"
                 ("ETHYLENE" OR "ETHYLENES")
       1827174 "OXIDE"
        354299 "OXIDES"
       1927245 "OXIDE"
```

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                ("OXIDE" OR "OXIDES")
         15840 "POLY(ETHYLENE OXIDE)"
                ("POLY"(W)"ETHYLENE"(W)"OXIDE")
         10501 PEO
           151 PEOS
         10532 PEO
                (PEO OR PEOS)
         18167 PBS
             6 PBSES
         18172 PBS
                (PBS OR PBSES)
        586556 PHOSPHATE
        130539 PHOSPHATES
        636996 PHOSPHATE
                (PHOSPHATE OR PHOSPHATES)
         39980 BUFFERED
        115189 SALINE
           403 SALINES
        115428 SALINE
                (SALINE OR SALINES)
          6284 PHOSPHATE BUFFERED SALINE
                (PHOSPHATE(W)BUFFERED(W)SALINE)
L5          180 (POLYETHYLENE GLYCOL OR "POLY(ETHYLENE GLYCOL)" OR PEG OR POLYET
                HYLENE OXIDE OR "POLY(ETHYLENE OXIDE)" OR PEO) (S) (PBS OR PHOSP
                HATE BUFFERED SALINE)

=> s l5 (s) degrad?
        295890 DEGRAD?
        333034 DEGRDN
          2440 DEGRDNS
        334262 DEGRDN
                (DEGRDN OR DEGRDNS)
        499147 DEGRAD?
                (DEGRAD? OR DEGRDN)
L6            6 L5 (S) DEGRAD?

=> s l5 (s) ?degrad?
        361761 ?DEGRDN
        345785 ?DEGRAD?
        361761 ?DEGRDN
        333034 DEGRDN
          2440 DEGRDNS
        334262 DEGRDN
                (DEGRDN OR DEGRDNS)
        556828 ?DEGRAD?
                (?DEGRAD? OR ?DEGRDN OR DEGRDN)
L7           16 L5 (S) ?DEGRAD?

=> d l-16 ibib abs

L7   ANSWER 1 OF 16  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:        2007:1424344  CAPLUS
TITLE:                   Synthesization and characterization of
                         biodegradable PBS/PEG
                         block copolymer
AUTHOR(S):               Chen, Jing; Wu, Jin; Zhou, Yi-feng; Nie, Wang-yan; Yu,
                         Jin
CORPORATE SOURCE:        School of Chemistry and Chemical Engineering, the Key
                         Laboratory of Environmentally Friendly Polymer
                         Materials of Anhui Province, Anhui University, Hefei,
                         230039, Peop. Rep. China
SOURCE:                  Zhongguo Suliao (2007), 21(10), 13-16
```

CODEN: ZHSUF5; ISSN: 1001-9278
PUBLISHER: Zhongguo Suliao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Using TDI as a coupling agent, multiblock copolymer of PBS-diol and PEG was prepared The product was characterized with IR absorption spectrum (FT-IR), NMR spectroscopy (1H-NMR), etc. The influence of the monomer ratio and the amount of TDI on the properties of the copolymers including water absorption and hydrolytic degradation behavior was studied. It was indicated that the introduction of PEG obviously improved the hydrophilicity of copolymers. The degradation rate of copolymers was obviously higher than that of neat PBS.

L7 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:518456 CAPLUS
DOCUMENT NUMBER: 147:166718
TITLE: Biodegradation of unsaturated poly(ester-amide)s and their hydrogels
AUTHOR(S): Guo, Kai; Chu, Chih-Chang
CORPORATE SOURCE: Fiber and Polymer Science Program, Department of Fiber Science and Apparel Design, and Biomedical Engineering Program, Cornell University, Ithaca, NY, 14853-4401, USA
SOURCE: Biomaterials (2007), 28(22), 3284-3294
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The biodegradability of both unsatd. (UPEA) and saturated (SPEA) poly(ester-amide)s and a series of hydrogels (UPEA-G) fabricated from UPEA and poly(ethylene glycol) diacrylate (PEG-DA) was examined as a function of PEA chemical structures in both phosphate buffered saline (PBS) and α-chymotrypsin solns. Based on the weight loss data, α-chymotrypsin had a much more profound effect on the hydrolyzes of UPEA, SPEA polymers (up to 32% weight loss on day 1 for FPBe) and UPEA-G hydrogels (up to 32% weight loss on day 31 for FPBe-G28) than a PBS buffer (less than 10% for polymers and 16% for hydrogels). The changes in elastic moduli and the interior morphol. of the hydrogels in both PBS buffer and α-chymotrypsin solns. were also monitored for 2 mo, and the hydrogels' crosslinking d. (n e) and mol. weight between crosslinks (Mc) before and after biodegrdn. were then examined as a function of biodegrdn. time, enzyme concentration, and different chemical structure of precursors. The differences in biodegrdn. rates among PEA polymer and UPEA-G hydrogels are ascribed to differences in hydrophilicity and saturated or unsatd. structure of the polymers and hydrogel precursors. Our results showed that, by changing the concentration of α-chymotrypsin, the type of UPEA precursors and their feed ratio, the UPEA-G hydrogels could have controllable biodegradability, which is quite desirable for a wide range of biomedical and pharmaceutical applications.
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:129181 CAPLUS
DOCUMENT NUMBER: 142:356004
TITLE: Novel biodegradable poly(butylene succinate)/poly(ethylene oxide) blend film with compositional and spherulite size gradients
AUTHOR(S): Hexig, B.; Alata, H.; Asakawa, N.; Inoue, Y.
CORPORATE SOURCE: Department of Biomolecular Engineering, Tokyo

Institute of Technology, Yokohama, 226-8501, Japan
SOURCE: Journal of Polymer Science, Part B: Polymer Physics (2005), 43(4), 368-377
CODEN: JPBPEM; ISSN: 0887-6266
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Biodegradable poly(butylene succinate) (PBS)/ poly(ethylene oxide) (PEO) blend film with a compositional gradient in the film thickness direction was prepared using a method of interdiffusion across the interface between the PBS and PEO layers at a temperature above the m.p. of both component polymers. The miscibility between PBS and PEO was confirmed by observation of the Tg using DSC. The compositional gradient structure was characterized by microscopic mapping of the FTIR spectra and dynamic thermal anal. Furthermore, a method for confirming the crystalline/crystalline compositional gradient structure is reported through observing the crystallization behavior using polarized optical microscopy. A continuous gradient of the spherulite size along the film thickness direction was successfully generated in the blend film. The compositional gradient blend has significantly improved phys. properties that cannot be realized with pure PBS, pure PEO or even their homogeneous miscible blend system.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:1088223 CAPLUS
DOCUMENT NUMBER: 142:417092
TITLE: In vitro degradation of porous poly(propylene fumarate)/poly(-lactic-co-glycolic acid) composite scaffolds
AUTHOR(S): Hedberg, Elizabeth L.; Shih, Charles K.; Lemoine, Jeremy J.; Timmer, Mark D.; Liebschner, Michael A. K.; Jansen, John A.; Mikos, Antonios G.
CORPORATE SOURCE: Department of Bioengineering, Rice University, Houston, TX, 77251-1892, USA
SOURCE: Biomaterials (2005), 26(16), 3215-3225
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This study investigated the in vitro degradation of porous poly(propylene fumarate) (PPF-based) composites incorporating microparticles of blends of poly(-lactic-co-glycolic acid) (PLGA) and poly(ethylene glycol) (PEG) during a 26-wk period in pH 7.4 phosphate-buffered saline at 37°. Using a fractional factorial design, four formulations of composite scaffolds were fabricated with varying PEG content of the microparticles, microparticle mass fraction of the composite material, and initial leachable porogen content of the scaffold formulations. PPF scaffolds without microparticles were fabricated with varying leachable porogen content for use as controls. The effects of including PLGA/PEG microparticles in PPF scaffolds and the influence of alterations in the composite formulation on scaffold mass, geometry, water absorption, mech. properties and porosity were examined for cylindrical specimens with lengths of 13 mm and diams. of 6.5 mm. The composite scaffold composition affected the extent of loss of polymer mass, scaffold length, and diameter, with the greatest loss of polymer mass equal to 15±5% over 26 wk. No formulation, however, exhibited any variation in compressive modulus or peak compressive strength over time. Addnl., sample porosity, as determined by both mercury porosimetry and micro-computed

tomog. did not change during the period of this study. These results demonstrate that microparticle carriers can be incorporated into PPF scaffolds for localized delivery of bioactive mols. without altering scaffold mech. or structural properties up to 26 wk in vitro.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:1062914 CAPLUS
DOCUMENT NUMBER: 142:183185
TITLE: Synthesis and evaluation of biodegradable segmented multiblock poly(ether ester) copolymers for biomaterial applications
AUTHOR(S): Wang, Lian-cai; Chen, Jin-wu; Liu, Hou-li; Chen, Zhu-qiong; Zhang, Yong; Wang, Chang-yong; Feng, Zeng-guo
CORPORATE SOURCE: Beijing Institute of Technology, School of Materials Science and Engineering, Beijing, 100081, Peop. Rep. China
SOURCE: Polymer International (2004), 53(12), 2145-2154 CODEN: PLYIEI; ISSN: 0959-8103
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Based on 1,4-succinic acid, 1,4-butanediol, poly(ethylene glycol)s and di-Me terephthalate, biodegradable segmented multiblock copolymers of poly[(butylene terephthalate)-co-poly(butylene succinate)-block-poly(ethylene glycol)] (PTSG) were synthesized with different poly(butylene succinate) (PBS) molar fractions and varying the poly(ethylene glycol) (PEG) segment length, and were evaluated as biomedical materials. The copolymer exts. showed no in vitro cytotoxicity. However, sterilization of the copolymers by gamma irradiation had some limited effect on the cytotoxicity and mech. properties. A copolymer consisting of PEG-1000 and 20 mol% PBS, assigned as 1000PBS20 after SO2 gas plasma treatment, sustained the adhesion and growth of dog vascular smooth muscle cells. The in vivo biocompatibility of this sample was also measured s.c. in rats for 4 wk. The assessments indicated that these poly(ether ester) copolymers are good candidates for anti-adhesion barrier and drug controlled-release applications.
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:1021648 CAPLUS
DOCUMENT NUMBER: 142:322506
TITLE: In vitro degradation of nanoparticles prepared from polymers based on DL-lactide, glycolide and poly(ethylene oxide)
AUTHOR(S): Zweers, Miechel L. T.; Engbers, Gerard H. M.; Grijpma, Dirk W.; Feijen, Jan
CORPORATE SOURCE: Department of Polymer Chemistry and Biomaterials, Institute for Biomedical Technology, Faculty of Science and Technology, Twente University, Enschede, 7500 AE, Neth.
SOURCE: Journal of Controlled Release (2004), 100(3), 347-356 CODEN: JCREEC; ISSN: 0168-3659
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Nanoparticles of poly(DL-lactic acid) (PDLLA), poly(DL-lactic-co-glycolic acid) (PLGA) and poly(ethylene oxide)-PLGA diblock copolymer (PEO-PLGA)

were prepared by the salting-out method. The in vitro degradation of PDLLA, PLGA and PEO-PLGA nanoparticles in PBS (pH 7.4) at 37 °C was studied. The particle size, mol. weight of the polymers and the amount of lactic and glycolic acids formed were followed in time. PDLLA nanoparticles gradually degraded over a period of 2 years and retain their size during that period. A faster degradation was observed for PLGA nanoparticles, which was nearly complete after 10 wk. PLGA nanoparticles retained their size during that period. In PEO-PLGA nanoparticles, the ester bond connecting the PEO and the PLGA segments was preferentially cleaved, which led to a relatively fast decrease in mol. weight and to (partial) aggregation, as multimodal size distributions were observed PEO-PLGA nanoparticles were almost completely degraded within 8 wk.

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:498461 CAPLUS

DOCUMENT NUMBER: 141:191332

TITLE: The influence of soft segment length on the properties of poly(butylene terephthalate-co-succinate)-b-poly(ethylene glycol) segmented random copolymers

AUTHOR(S): Zhang, Yong; Feng, Zengguo; Feng, Qingling; Cui, Fuzhai

CORPORATE SOURCE: Department of Material Science and Engineering, Tsinghua University, Beijing, 100084, Peop. Rep. China

SOURCE: European Polymer Journal (2004), 40(7), 1297-1308
CODEN: EUPJAG; ISSN: 0014-3057

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Three series of poly(butylene terephthalate-co-succinate)-b-poly(ethylene glycol) segmented random copolymers with starting PEG number-average mol. weight (Mn(PEG)) at 600, 1000 and 2000, resp., as well as hard segment poly(butylene succinate) (PBS) molar fraction (MPBS) increasing from 10% to 30% were synthesized through a transesterification/polycondensation process and characterized by means of GPC, NMR, DSC, WAXD and mech. testing etc. The investigations were mainly focused on the influence of Mn(PEG) on the properties of resulting copolymers bearing two sorts of hard segments. It is revealed that all the samples show a relatively sym. GPC curves with the number-average mol. weight more than 4 + 104, while the polydispersity decreases from 1.9 to 1.4 as the increasing Mn(PEG) because of the prolonged time for polycondensation and the faster exclusion of small mols. byproduct with the decreased molten viscosity. The sequence distribution anal. shows that the average sequence length of hard segment PBT decreases while that of PBS increases with the increasing MPBS and are independent of the soft segment length. The approx. unit degree of randomness as well as the soft segment length turns out that the segments take a statistically random distribution along the backbone. Micro-phase separation structure is verified for the appearance of two glass transition temps. and two m.ps., resp., in DSC thermograms of most samples. The depression of m.ps. and the reduction of crystallinity of hard segments with increasing MPBS are related to the crystal lattice transition from α-PBT to PBS and discussed in the viewpoint of cohesive energy. Mech. testing results demonstrate that the increase of amorphous domains the increase of MPBS as well as Mn(PEG) will provide high elongation and good flexibility of copolymer chain. The in vitro degradation expts. show that the partial substitution of aromatic segment PBT with aliphatic PBS will substantially accelerate the degradation rate with enhanced safety of degradation byproducts and while changing Mn(PEG) broaden the spectrum to tailor the properties.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:234560 CAPLUS
DOCUMENT NUMBER: 141:291719
TITLE: Surface bioactive modification of biodegradable polyester using self-assembly method based on diazoresin
AUTHOR(S): Gao, Lingling; Yao, Guijun; Li, Xaojuan; Zhang, Aiying; Feng, Zengguo; Dong, Yuping; Cao, Yujing; Duan, Enkui
CORPORATE SOURCE: School of Materials Science and Engineering, Beijing Institute of Technology, Beijing, 100081, Peop. Rep. China
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2004), 45(1), 818-819
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
AB A multilayer film was fabricated from DNA or bovine serum albumin by the adjusting of pH=7, as polyanion, and photosensitive diazoresin (DR) as polycation, in aqueous solution via electrostatic self-assembly on surface of biodegradable poly(butylene terephthalate)-co-poly(butylene succinate)-block-poly(ethylene glycol)
segmented random copolymer containing 20 box poly(butylene succinate) (PBS) molar fraction (P). The absorbance of DR-DNA film at 380 nm increased linearly with the number of bilayers on quartz wafer and P. Thus, it was good for forming self-assembly film on the surface of P. Under UV irradiation, following the decomposition of diazonium group between the adjacent
interfaces of the multilayer, the ionic bonds of the self-assembly film were covalent bonds and the film becomes very stable toward electrolyte aqueous solns. Therefore, the existence of the stable self-assembled ultrathin films not only prevented the biodegrdn. of polyester below the films but also enhanced the biol. activity of P and the cells were cultured and well grown on surface of the ultrathin film. Cell growth was better on the surface of DR-BSA self-assembly films than on DR-DNA.
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:228723 CAPLUS
TITLE: Surface bioactive modification of biodegradable polyester using self-assembly method based on diazoresin
AUTHOR(S): Gao, Lingling; Yao, Guijun; Li, Xiaojuan; Zhang, Aiying; Feng, Zengguo; Dong, Yuping; Cao, Yujing; Duan, Enkui
CORPORATE SOURCE: School of Materials Science and Engineering, Beijing Institute of Technology, Beijing, 100081, Peop. Rep. China
SOURCE: Abstracts of Papers, 227th ACS National Meeting, Anaheim, CA, United States, March 28-April 1, 2004 (2004), POLY-088. American Chemical Society: Washington, D. C.
CODEN: 69FGKM
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB A multilayer film was fabricated from DNA or Bovine Serum Ablumin (BSA)

though the adjusting of pH=7, as polyanion, and photosensitive Diazonesin (DR) as polycation, in aqueous solution via eletrostatic self-assembly on surface of biodegradable Poly(butylene terephthalate)-co-poly(butylene succinate)-block-poly(ethylene glycol) segmented random copolymer containing 20-H poly(butylene succinate) (PBS) molar fraction (P). The exptl. results revealed that the absorbance of DR-DNA film at 380nm increases linearly with the number of bilayers on quartz wafer and P. So it was good for forming self-assembly film on the surface of P. Under UV irradiation, DR was decomposed and then the covalent bonds formed between layers instead of ionic bonds. The stability of P film modified greatly increased when the self-assembly film thickness beyond 6 bilayers. Cell growth was better on the surface of DR-BSA self-assembly films than on DR-DNA.

L7 ANSWER 10 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:838423 CAPLUS
DOCUMENT NUMBER: 140:326962
TITLE: In vivo and in vitro degradation of poly(ether ester) block copolymers based on poly(ethylene glycol) and poly(butylene terephthalate)
AUTHOR(S): Deschamps, A. A.; van Apeldoorn, A. A.; Hayen, H.; de Bruijn, J. D.; Karst, U.; Grijpma, D. W.; Feijen, J.
CORPORATE SOURCE: Institute for Biomedical Technology (BMTI), Faculty of Chemical Technology, Department of Polymer Chemistry and Biomaterials, University of Twente, Enschede, 7500 AE, Neth.
SOURCE: Biomaterials (2003), Volume Date 2004, 25(2), 247-258 CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Two in vivo degradation studies were performed on segmented poly(ether ester)s based on polyethylene glycol (PEG) and poly(butylene terephthalate) (PBT) (PEOT/PBT). In a first series of expts., the in vivo degradation of melt-pressed disks of different copolymer compns. were followed up for 24 wk after s.c. implantation in rats. The second series of expts. aimed to simulate long-term in vivo degradation For this, PEOT/PBT samples were pre-degraded in phosphate buffer saline (PBS) at 100° and subsequently implanted. In both series, explanted materials were characterized by intrinsic viscosity measurements, mass loss, proton NMR spectroscopy (1H-NMR) and differential scanning calorimetry (DSC). In both studies the copolymer with the higher PEO content degraded the fastest, although all materials degraded relatively slowly. To determine the nature of the degradation products formed during hydrolysis of the copolymers, 1000 PEOT71PBT29 (a copolymer based on PEG with a mol. weight of 1000 g/mol and 71% of PEO-containing soft segments) was degraded in vitro at 100° in phosphate buffer saline (PBS) during 14 days. The degradation products present in PBS were analyzed by 1H-NMR and high performance liquid chromatog./mass spectroscopy (HPLC/MS). These degradation products consisted of a fraction with high contents of PEO that was soluble in PBS and a PEOT/PBT fraction that was insol. at room temperature From the different in vitro and in vivo degradation expts. performed, it can be concluded that PEOT/PBT degradation is a slow process and generates insol. polymeric residues with high PBT contents.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:392690 CAPLUS
DOCUMENT NUMBER: 140:47232

TITLE: Physical Properties and Biodegradation of Lactide-based Poly(ethylene glycol) Polymer Networks for Tissue Engineering
AUTHOR(S): Ju, Young Min; Ahn, Kwang-Duk; Kim, Jong Man; Hubbell, Jeffrey A.; Han, Dong Keun
CORPORATE SOURCE: Biomaterials Research Center, Korea Institute of Science and Technology, Seoul, 130-650, S. Korea
SOURCE: Polymer Bulletin (Berlin, Germany) (2003), 50(1-2), 107-114
CODEN: POBUDR; ISSN: 0170-0839
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB New lactide-based poly(ethylene glycol) (PEG) polymer networks (GL-PEG) have been prepared by photopolymn. using two nontoxic macromers, triacrylated lactic acid oligomer emanating from a glycerol center (GL) and monoacrylated PEG. These materials may be used as polymer scaffolds in tissue engineering because they provide biodegradable, cell-adhesion resistant, and ligand-immobilizable characteristics. The thermal and mech. properties of the resulting GL-PEG networks were evaluated and their biodegradability was investigated in phosphate buffered saline (PBS) at 80°. The glass transition temperature (Tg) of all networks after degradation relatively decreased and the trend was similar to those before biodegrdn., whereas thermal decomposition temperature (Td1/2) increased in all networks to a certain degree. The tensile strength decreased as PEG was incorporated and as the mol. weight and content of PEG increased due to the soft PEG chains. Degradation rate of GL-PEG networks was controlled by the ratio of GL to PEG, and generally the rate of GL-PEG networks was faster than that of GL homonetworks.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:965152 CAPLUS
DOCUMENT NUMBER: 138:39744
TITLE: Manufacture of methacrylate ester-grafted polyesters as water-responsive biodegradable materials
INVENTOR(S): Wang, James H.; Schertz, David M.
PATENT ASSIGNEE(S): Kimberly-Clark Worldwide, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 38 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002193517	A1	20021219	US 2001-753077	20010312
US 6890989	B2	20050510		

PRIORITY APPLN. INFO.: US 2001-753077 20010312

AB Poly(β-hydroxybutyrate-co-β-hydroxyvalerate), poly(butylene succinate) (PBS) or polycaprolactone modified by grafting with polar monomers, specifically hydroxyethyl methacrylate and polyethylene glycol Et ether methacrylate, are useful for the manufacture of flushable and biodegradable articles. For example, a title polyester, used for H2O-responsive, biodegradable film, was produced by radical grafting of PBS (Bionolle 1040) with polyethylene glycol Et ether monomethacrylate in

an extruder, in the presence of Lupersol 101 radical initiator.

L7 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1999:682847 CAPLUS
DOCUMENT NUMBER: 132:83477
TITLE: A controlled release system for proteins based on poly(ether ester) block-copolymers: polymer network characterization
AUTHOR(S): Bezemer, J. M.; Grijpma, D. W.; Dijkstra, P. J.; van Blitterswijk, C. A.; Feijen, J.
CORPORATE SOURCE: Faculty of Chemical Engineering, Polymer Chemistry and Biomaterials, Institute for Biomedical Technology (BMTI), University of Twente, Enschede, 7500 AE, Neth.
SOURCE: Journal of Controlled Release (1999), 62(3), 393-405
CODEN: JCREEC; ISSN: 0168-3659
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The properties of a series of multiblock copolymers, based on hydrophilic PEG and hydrophobic poly(butylene terephthalate) (PBT) blocks were investigated with respect to their application as a matrix for controlled release of proteins. The degree of swelling, Q, of the copolymers increased with increasing PEG content and with increasing mol. weight of the PEG segment. Within the composition range tested, Q varied from 1.26 for polymers with PEG segments of 600 g/mol and a PBT content of 60 weight % Up to 3.64 for polymers with PEG segments of 4000 g/mol and a PEG/PBT weight ratio of 80:20. Equilibrium stress (compression)-strain measurements were performed in order to estimate mesh sizes. The mesh size of the copolymers ranged from 38 to 93 A, which was exptl. confirmed by diffusion of vitamin B12 (hydrodynamic diameter dh=16.6 A), lysozyme (dh=41 A) and bovine serum albumin (dh=72 A). The in vitro degradation of PEG/PBT copolymers with a PEG block length of 1000 g/mol and PEG/PBT weight ratios of 70:30, 60:40 and 40:60 was studied. Matrixes with increasing PEG contents exhibited a faster weight loss in phosphate-buffered saline (pH 7.4) at 37°C. Over a degradation period of 54 days, Mn decreased by about 35-45%, while the composition of the matrixes, determined by NMR, remained almost constant
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:463699 CAPLUS
DOCUMENT NUMBER: 127:113305
TITLE: In vitro degradation study and in vitro biocompatibility testing of PEO-containing ABA triblock copolymers
AUTHOR(S): Zange, R.; Li, Y.; Kissel, T.
CORPORATE SOURCE: Department of Pharmaceutics and Biopharmacy, Philipps University of Marburg, Germany
SOURCE: Proceedings of the International Symposium on Controlled Release of Bioactive Materials (1997), 24th, 511-512
CODEN: PCRMEY; ISSN: 1022-0178
PUBLISHER: Controlled Release Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB ABA triblock copolymers containing lactide/glycolide A-blocks and PEO B-blocks were prepared by bulk polymerization The rate of degradation of the polymers in phosphate-buffered saline solution at 37° increased with increasing PEO content; weight loss resulted from release of the PEO segments. In vitro cytotoxicity testing of exts. of ABA polymers with differing proportions

of A and B blocks showed good biocompatibility except for a polymer containing lactide 69, glycolide 24, and PEO 7 mol% (mol. weight 20,300), which was significantly toxic to L929 cells (IC50 = 38 mg/mL). Implanted particles of all ABA polymers tested were well tolerated in laboratory animals.

L7 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:458066 CAPLUS
DOCUMENT NUMBER: 127:130414
TITLE: Interaction of supramolecular-structured polyrotaxanes with hairless rat stratum corneum and its effect on indomethacin permeation
AUTHOR(S): Ooya, Tooru; Sugawara, Hiroyuki; Yui, Nobuhiko
CORPORATE SOURCE: Sch. Mater. Sci., Japan Adv. Inst. Sci. Technol., Ishikawa, 923-12, Japan
SOURCE: Drug Delivery System (1997), 12(2), 89-94
CODEN: DDSYEI; ISSN: 0913-5006
PUBLISHER: Nippon DDS Gakkai Jimukyoku
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB Interaction of hydroxypropylated polyrotaxane with the stratum corneum of hairless rat skin and its increased permeation of indomethacin through the full-thickness skin was examined Polyrotaxanes are well known as a supramol. assembly in which many cyclic compds. are threaded onto a liner polymeric chain capped with bulky end-groups. The synthesis of biodegradable polyrotaxanes consists of three steps:the preparation of an inclusion complex consisting of α-cyclodextrins (αCDs) and amino-terminated poly(ethylene glycol) (PEG), the introduction of L-phenylalanine (L-Phe) at each complex terminal via peptide linkages, and hydroxypropylation of αCDs improved the solubility of the polyrotaxanes in PBS, pH7.4. A decrease inn the bound water content was observed at the stratum corneum treated by hydroxypropylated (HP-) polyrotaxanes. Further, enhanced permeation of indomethacin through the skin was observed by the treatment of HP-polyrotaxanes. These results suggest that a supramol. structure of the polyrotaxane caused the exchange of water in polar lipids or some extraction of polar lipids from the stratum corneum to enhance indomethacin permeation. Further, such enhanced effect of the polyrotaxane on indomethacin permeation was also observed when the skin was treated from dermis side. This result suggests a possibility that the HP-polyrotaxane penetrates into the stratum corneum to enhance indomethacin permeation. The polyrotaxane can be dissociated into PEG and αCDs by degradation of the terminal moiety. Therefore, it is concluded that a feasible design of polyrotaxane terminals degradable at s.c. tissue provides excellent properties as an enhancer with a passive safety system.

L7 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:111283 CAPLUS
DOCUMENT NUMBER: 126:118999
TITLE: Biodegradable composite fibers with high biodegradation rate and practically usable strength
INVENTOR(S): Hirano, Madoka; Yamada, Kenji; Murase, Shigemitsu
PATENT ASSIGNEE(S): Unitika Ltd., Japan; Chikyu Kankyo Sangyo Gijutsu Kenkyu Kiko
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

```
     JP 08302526          A     19961119    JP 1995-110407         19950509
     JP 3474024           B2    20031208
PRIORITY APPLN. INFO.:                      JP 1995-110407         19950509
AB   The title fibers comprise core containing 50-100% water-soluble thermoplastic
     polymers and 0-50% water-insol. thermoplastic polymers and sheath containing
     water-insol. thermoplastic polymers.  A biodegradable
     polyethylene glycol core-PBS sheath composite
     fiber (2:1) had tenacity 4.8 g/denier and elongation 27.2%.


=> d his

     (FILE 'HOME' ENTERED AT 13:19:33 ON 10 JAN 2008)

     FILE 'CAPLUS' ENTERED AT 13:19:46 ON 10 JAN 2008
L1            58 S EMBOLIZ? AND (POLYETHYLENE GLYCOL OR "POLY(ETHYLENE GLYCOL)"
L2             1 S L1 AND SWELLING RATIO?
L3            20 S L1 AND ?PARTICL?
L4             2 S L3 AND (PHOSPHATE OR PBS)
L5           180 S (POLYETHYLENE GLYCOL OR "POLY(ETHYLENE GLYCOL)" OR PEG OR POL
L6             6 S L5 (S) DEGRAD?
L7            16 S L5 (S) ?DEGRAD?

=> s l7 and ?particl?
       1398138 ?PARTICL?
L8             4 L7 AND ?PARTICL?

=> d l-4 ibib abs

L8   ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2004:1088223  CAPLUS
DOCUMENT NUMBER:          142:417092
TITLE:                    In vitro degradation of porous poly(propylene
                          fumarate)/poly(-lactic-co-glycolic acid) composite
                          scaffolds
AUTHOR(S):                Hedberg, Elizabeth L.; Shih, Charles K.; Lemoine,
                          Jeremy J.; Timmer, Mark D.; Liebschner, Michael A. K.;
                          Jansen, John A.; Mikos, Antonios G.
CORPORATE SOURCE:         Department of Bioengineering, Rice University,
                          Houston, TX, 77251-1892, USA
SOURCE:                   Biomaterials (2005), 26(16), 3215-3225
                          CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER:                Elsevier Ltd.
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   This study investigated the in vitro degradation of porous
     poly(propylene fumarate) (PPF-based) composites incorporating
     microparticles of blends of poly(-lactic-co-glycolic acid) (PLGA)
     and poly(ethylene glycol) (PEG)
     during a 26-wk period in pH 7.4 phosphate-buffered
     saline at 37°.  Using a fractional factorial design, four
     formulations of composite scaffolds were fabricated with varying PEG
     content of the microparticles, microparticle mass
     fraction of the composite material, and initial leachable porogen content
     of the scaffold formulations.  PPF scaffolds without
     microparticles were fabricated with varying leachable porogen
     content for use as controls.  The effects of including PLGA/PEG
     microparticles in PPF scaffolds and the influence of alterations
     in the composite formulation on scaffold mass, geometry, water absorption,
     mech. properties and porosity were examined for cylindrical specimens with
     lengths of 13 mm and diams. of 6.5 mm.  The composite scaffold composition
     affected the extent of loss of polymer mass, scaffold length, and diameter,
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with the greatest loss of polymer mass equal to 15±5% over 26 wk. No formulation, however, exhibited any variation in compressive modulus or peak compressive strength over time. Addnl., sample porosity, as determined by both mercury porosimetry and micro-computed tomog. did not change during the period of this study. These results demonstrate that microparticle carriers can be incorporated into PPF scaffolds for localized delivery of bioactive mols. without altering scaffold mech. or structural properties up to 26 wk in vitro.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:1062914 CAPLUS

DOCUMENT NUMBER: 142:183185

TITLE: Synthesis and evaluation of biodegradable segmented multiblock poly(ether ester) copolymers for biomaterial applications

AUTHOR(S): Wang, Lian-cai; Chen, Jin-wu; Liu, Hou-li; Chen, Zhu-qiong; Zhang, Yong; Wang, Chang-yong; Feng, Zeng-guo

CORPORATE SOURCE: Beijing Institute of Technology, School of Materials Science and Engineering, Beijing, 100081, Peop. Rep. China

SOURCE: Polymer International (2004), 53(12), 2145-2154 CODEN: PLYIEI; ISSN: 0959-8103

PUBLISHER: John Wiley & Sons Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Based on 1,4-succinic acid, 1,4-butanediol, poly(ethylene glycol)s and di-Me terephthalate, biodegradable segmented multiblock copolymers of poly[(butylene terephthalate)-co-poly(butylene succinate)-block-poly(ethylene glycol)] (PTSG) were synthesized with different poly(butylene succinate) (PBS) molar fractions and varying the poly(ethylene glycol) (PEG) segment length, and were evaluated as biomedical materials. The copolymer exts. showed no in vitro cytotoxicity. However, sterilization of the copolymers by gamma irradiation had some limited effect on the cytotoxicity and mech. properties. A copolymer consisting of PEG-1000 and 20 mol% PBS, assigned as 1000PBS20 after SO2 gas plasma treatment, sustained the adhesion and growth of dog vascular smooth muscle cells. The in vivo biocompatibility of this sample was also measured s.c. in rats for 4 wk. The assessments indicated that these poly(ether ester) copolymers are good candidates for anti-adhesion barrier and drug controlled-release applications.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:1021648 CAPLUS

DOCUMENT NUMBER: 142:322506

TITLE: In vitro degradation of nanoparticles prepared from polymers based on DL-lactide, glycolide and poly(ethylene oxide)

AUTHOR(S): Zweers, Miechel L. T.; Engbers, Gerard H. M.; Grijpma, Dirk W.; Feijen, Jan

CORPORATE SOURCE: Department of Polymer Chemistry and Biomaterials, Institute for Biomedical Technology, Faculty of Science and Technology, Twente University, Enschede, 7500 AE, Neth.

SOURCE: Journal of Controlled Release (2004), 100(3), 347-356 CODEN: JCREEC; ISSN: 0168-3659

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal
LANGUAGE: English
AB Nanoparticles of poly(DL-lactic acid) (PDLLA), poly(DL-lactic-co-glycolic acid) (PLGA) and poly(ethylene oxide)-PLGA diblock copolymer (PEO-PLGA) were prepared by the salting-out method. The in vitro degradation of PDLLA, PLGA and PEO-PLGA nanoparticles in PBS (pH 7.4) at 37 °C was studied. The particle size, mol. weight of the polymers and the amount of lactic and glycolic acids formed were followed in time. PDLLA nanoparticles gradually degraded over a period of 2 years and retain their size during that period. A faster degradation was observed for PLGA nanoparticles, which was nearly complete after 10 wk. PLGA nanoparticles retained their size during that period. In PEO-PLGA nanoparticles, the ester bond connecting the PEO and the PLGA segments was preferentially cleaved, which led to a relatively fast decrease in mol. weight and to (partial) aggregation, as multimodal size distributions were observed PEO-PLGA nanoparticles were almost completely degraded within 8 wk.
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:463699 CAPLUS
DOCUMENT NUMBER: 127:113305
TITLE: In vitro degradation study and in vitro biocompatibility testing of PEO-containing ABA triblock copolymers
AUTHOR(S): Zange, R.; Li, Y.; Kissel, T.
CORPORATE SOURCE: Department of Pharmaceutics and Biopharmacy, Philipps University of Marburg, Germany
SOURCE: Proceedings of the International Symposium on Controlled Release of Bioactive Materials (1997), 24th, 511-512
CODEN: PCRMEY; ISSN: 1022-0178
PUBLISHER: Controlled Release Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB ABA triblock copolymers containing lactide/glycolide A-blocks and PEO B-blocks were prepared by bulk polymerization The rate of degradation of the polymers in phosphate-buffered saline solution at 37° increased with increasing PEO content; weight loss resulted from release of the PEO segments. In vitro cytotoxicity testing of exts. of ABA polymers with differing proportions of A and B blocks showed good biocompatibility except for a polymer containing lactide 69, glycolide 24, and PEO 7 mol% (mol. weight 20,300), which was significantly toxic to L929 cells (IC50 = 38 mg/mL). Implanted particles of all ABA polymers tested were well tolerated in laboratory animals.

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